

Amendments to the Specifications:

Please replace the paragraph at page 4, line 20 through page 5, line 4, with the following:

"The integrated sensors of the present invention use piezoelectrically-based resonators designed from a piezoelectric crystal such as quartz, lithium niobate, lithium ~~tantalite~~ tantalate, langasite, or Gallium Orthophosphate. The resonators can operate as bulk acoustic wave (BAW), surface acoustic wave (SAW), or Love mode devices. In all cases, the frequency is influenced by material deposited onto the surfaces. When mass is deposited onto the crystal, a change in frequency of the resonator occurs."

Please replace the paragraph at page 14, line 15 through page 15, line 11, with the following:

"Figs. 10 and 11 show a typical sensor device 60 of the present invention embodied in a hand-held configuration. Disposed within a conventional rectangular housing 61 is the sensor array 62, which can be comprised of piezoelectric-based resonators designed from quartz, lithium, niobate, lithium ~~tantalite~~ tantalate, langasite, Gallium Orthophosphate, or any piezoelectric crystal. The resonators (described supra in more detail) in the sensor array 62 can operate as bulk acoustic wave (BAW), surface acoustic wave (SAW), or Love mode devices. The sensor array 62 is connected electronically to the sensor array 63, which generally consists of several circuits, including an excitation circuit for each of the multiple modes; a circuit with variable drive levels; a circuit to provide heat; a circuit used to measure the power dissipated in the crystal via the heater and further used to determine the

heat of reaction between the target agent and the coating on the resonator surface; a measurement circuit used to collect data, incurring resonant frequencies and magnitudes of impedance over a frequency range; and an optical sensor. The sensor array electronics 62 are connected to microcontrollers 64, 65, 66, 67 and to the memory 68, 69, which together correlate and characterize the data, comparing, for instance, the sensed frequencies with reference frequencies. A battery 70 provides power for operation of the hand-held embodiment 60. An antenna 71 can be used to transmit data to a remote location."